

## **Adaptive capabilities, pathdependence and institutional change: insights from an empirical work on rural producers organizations**

Elodie Maître D'Hôtel, INRA-CIRAD<sup>1</sup>

[maitred@supagro.inra.fr](mailto:maitred@supagro.inra.fr)

Pierre-Marie Bosc, CIRAD<sup>2</sup>

[bosc@cirad.fr](mailto:bosc@cirad.fr)

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### **Abstract**

During the last twenty years, the evolution of public policies in Southern countries has been characterized by the implementation of liberalization processes, which can be analyzed through Douglass North's institutional change approach. In Costa Rica, liberalization processes, that mainly consisted in State withdrawal and frontiers' opening, led to private actors' empowering and induced different strategic behaviors among rural producers' organizations. In this paper, we carry out a comparative study of four farm sectors (coffee, milk, black bean and pineapple), based on a dynamic approach of behaviors in relation with institutional changes occurring during the liberalization process. We highlight organizations' capacities to adapt and participate to institutional changes by (i) implementing economical activities and (ii) acting upon public policies. We underline the fact that rural producers organizations play a key role in farm sectors' efficiency and sustainability, permitting both producers' market insertion (access to domestic and world markets) and political participation (obtention of public supports). We show that the conditions for success of collective action depend on organization's mental models and organization's resources endowment, and are in line with pathdependent logic. More generally, our study allows us to get a better understanding of institutional and economic dynamics.

**Keywords :** collective action, pathdependence, institutional change, mental models

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<sup>1</sup> PhD student, member of MOISA research unit (<http://www.montpellier.inra.fr/moisa/>), Montpellier, France.

<sup>2</sup> Researcher, member of MOISA research unit (<http://www.montpellier.inra.fr/moisa/>), Montpellier, France.

## **Introduction**

During the last twenty years, the evolution of public policies in Southern countries has been characterized by globalization phenomenons, and more specifically by the implementation of liberalization processes. These processes can be analyzed in the field of new institutional economics, through Douglass North's institutional change approach. In Costa Rica, liberalization processes, that mainly consisted in State withdrawal and in frontiers' opening, can be analyzed as a major institutional change for agricultural activities, that led to private actors' empowering and to a restructuration of farmsectors. Liberalization addresses the general issue of producers' survival and insertion in dynamic markets. In this paper we address the issue whether rural producers' organizations (RPOs thereafter) can guarantee producers' survival in a liberalized environment and insertion in dynamic markets. In the economical litterature, this question is mainly addressed by empirical analysis of the way producers' organizations adapt to institutional changes by leading specific economical activities. However, little empirical work has been done on the way producers' organizations can in return shape the institutional environment, by leading policy making activities. In this paper we analyze both organizations' participation and adaptation to institutional changes, showing that organizations' economical and policy activities are interdependent and necessary to ensure favorable market incentives that would guarantee producers' insertion in dynamic markets.

To do so, we carry out a comparative study of four farm sectors (coffee, milk, black bean and pineapple), based on a dynamic approach of behaviors in relation with institutional changes occuring during the liberalization process. We show that under certain conditions, RPOs can guarantee producers' insertion in dynamic markets. In section 1, we highlight organizations' capacities to adapt and participate to institutional changes by implementing economical activities and acting upon public policies. We analyze the role of RPOs both at local and national level, underlying interdependencies between policy-making and economical activities. Doing so, we show that RPOs can play a key role in farmsectors' efficiency and sustainability. In section 2, we address the issue of the conditions for RPOs' success in this role. First, we show that RPOs capacities to ensure producers' insertion in dynamic markets depend on their resources endowment and on the way they perceive their environment. Then, we show that these factors are directly linked with RPOs' trajectories, and thus are in line with pathdependent logic.

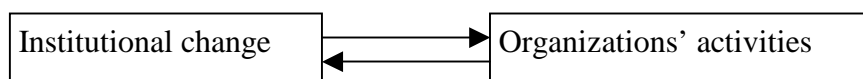
## Section 1: Rural producers' organizations as key actors of farmsectors

In this first section, we analyze the role RPOs are playing in four different farmsectors in Costa Rica, highlighting both their economical and policy-making activities. In institutional environments each time more subjected to economical liberalization, we show that RPOS can guarantee producers' insertion in dynamic markets.

### *Rural producers' organizations and institutional change*

In the literature, important insights have been made on the way agricultural organizations adapt to specific institutional changes. In most of the cases, institutional changes are taken as given, and the analysis deals with the way these changes shape organizations' activities. Institutional changes can correspond generally speaking to economical or trade liberalization (Ingco, 1995; Merrman, 1997) or to globalization phenomena (Reardon, 2000; Ruben and al 2006); more specifically they can equally correspond to economical reforms (McMillan and al, 1989; Lin, 1992); to agroindustrialization (Cook, 1995), to the rising importance of supermarkets (Reardon and al, 2003; Dries and al, 2004), etc. However, little work has been done on the way agricultural organizations' activities in return can shape the institutional change, by modifying their institutional environment.

*Figure 1 : Interactions between institutions and organizations*



In this paper, interactions between organizations and institutions correspond to our core analytical scheme: we analyze both organizations' adaptation and participation to institutional change. The implications are twofold: first, institutions are considered as endogenous; second, the policy-making activities of the organizations are analyzed. In the paper, we insist on policy-making oriented activities as a way to enhance marketing oriented ones. For analytical considerations, we distinguish between two types of organizations: "advocacy organizations", that operate at national level on policy making processes through lobbying activities (Pesche, 2006); and "economical organizations", that in most of the cases operate at local level, through production, transformation and marketing activities (Mercoiret and Mfou'ou, 2006). This distinction is purely analytical since in reality, there are important overlaps<sup>3</sup> between advocacy and economical organizations (Bosc and al, 2001).

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<sup>3</sup> In some of the cases observed, economical organizations do lead advocacy functions, and advocacy organizations do have economical functions.

### ***Picture of the evolution of the farmsectors studied***

Farmsectors studied are characterized by different evolution processes, that we describe here in terms of numbers of producers, average producers' market share, and volumes of production, exportation and importation. Coffee and pineapple are export products, while milk and bean are products traditionally destined to domestic consumption.

*Figure 2 : Evolution of the farm sectors studied*

	Coffee		Milk		Bean		Pineapple	
	1994	2004	1994	2004	1994	2004	1994	2004
Number of producers	88 662	59 484	9 047	5 200	21 500	6 000	650	3 000
Producers market share	50 %	35 %	90 %	95 %	100 %	25 %	10 %	20 %
Production (t)	1 700 859	1 438 539	590 000	610 000	25 707	10 503	545 760	1 963 636
Exportation (t)	1 530 774	1 294 685	-	57 000	-	-	545 760	1 963 636
Importation (t)	-	-	-	-	0	23154	-	-

Depending on farm sectors considered, sustainability conditions are different: in the milk and pineapple sectors, sustainability is ensured (expansion dynamic), while in the bean and coffee sectors sustainability is threatened (crisis dynamic). Our point is that these differences can partly be accounted for differences, between farmsectors, in organizations' economical and policy-making activities. In the next two subsections, we show that RPOs can play a key role in farm sectors' sustainability, permitting both producers' market access (both to domestic and world markets) and policy making participation (obtaining public supports). Despite a general evolution towards a wider liberalization, some farmsectors still benefit from important public supports: we relate these supports with collective action processes occurring inside the farm sectors but also to policy changes (pineapple sector).

### ***Rural producers' organizations economical role***

We use Williamson's governance structure concept to describe the mechanisms of economical coordination prevailing in each one of the farmsectors studied : these structures include markets, hierarchies and hybrid (Williamson, 1996). For each farmsector, we characterize governance structures currently prevailing, and describe more precisely the role RPOs are playing in these structures. A first observation (see Figure3) leads us to a double statement :

- The governance structures prevailing differ a lot from one farmsector to one another

- In each one of the farmsectors, RPOs do play a role in the coordination of economical activities. This role can recover different degrees of importance from one farmesctor to one another.

*Figure 3 : Governance structures currently prevailing in each one of the farm sectors studied*

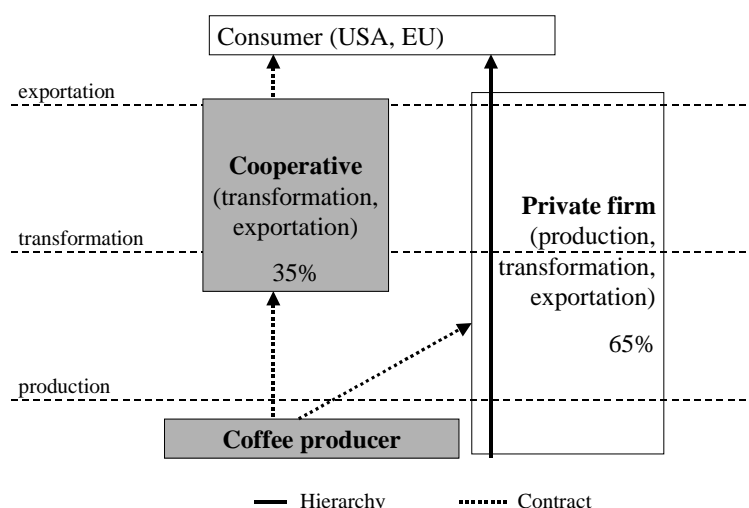
	Coffee	Milk	Bean	Pineapple
Main governance structure	Hybrid	Hierarchy	Market	Hierarchy
Other governance structure	Hierarchy	Hybrid	Hybrid	Market, hybrid
RPOs' market share	35 %	95 %	10 %	15 %

Considering sustainability, we must also consider related issues as (i) risk and vulnerability, and (ii) new norms compliance requirements, mostly but not exclusively in international markets. To what extent can RPOs help to reduce risks and adapt to norms' evolution? As pineapple, milk needs a tight management to avoid health hazards; plus, pineapple must comply with European and US quality standards for fresh products (Faure and Samper, 2006); while coffee must cope with new quality norms (differentiated product). We observe that even if it may not be exclusive, in these three sectors we find hierarchical modes of governance. To some extent, hierarchies correspond to the existence of dominant stakeholders within farmsectors: we will consider later the cases of CoopeDosPinos in milk, of national firms in coffee, and of multinationals firms in pineapple.

Coffee is one of the oldest agricultural productions in Costa Rica. Production is ensured by a large basis of small producers that historically did play an important role in the construction of the democratic Costarician State (Peters and Samper 2001). In comparison to other producing countries, coffee sector in Costa Rica is characterized by a relatively low level of integration. Indeed, since its inception, coffee production was mainly the fact of small scale farmers selling cherries to *beneficiadores* scattered in the central *Meseta* (Sfez, 2001). This initially low level of integration partially accounts to explain current governance structure. Economical activities are mainly ruled by hybrid structures, based on the existence of contracts between producers and cooperatives (or private firms), and between cooperatives (or private firms) and exporters connected to foreign importers in consumers countries. In the last ten years, due to an international deregulation, coffee prices are declining, despite the existence of a national regulation system (Diaz, 2003). Confronted to this crisis situation, cooperatives, that mostly emerged in the 1930s and consolidated in the 1960s, are slightly loosing importance in terms of market share after a deep management crisis that engaged the

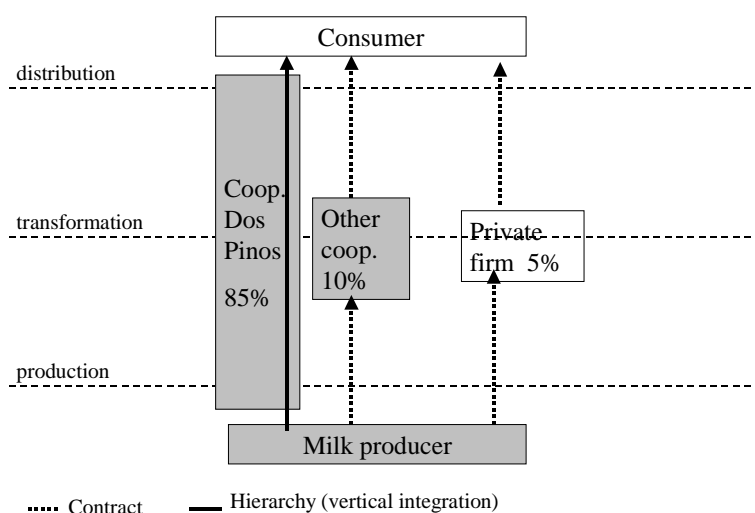
movement in a profound restructuring during the 1990s; on the contrary, private firms, who tend to vertically integrate the production function, giving rise to hierarchy structures, are gaining importance. Some cooperatives also follow this strategy.

*Figure 4 : Economical structuration of the coffee sector*



Milk production in Costa Rica corresponds to a reduced number of producers who tend to increase their acreage and to specialize: recent evolution is characterized by sensible productivity gains (SEPSA, 2002). Hierarchy is the most important governance structure, that mainly corresponds to a producers' organization, called CoopeDosPinos, that emerged in the 1950s, and progressively vertically integrated the entire milk sector, from production inputs to distribution (Melendez, 1998).

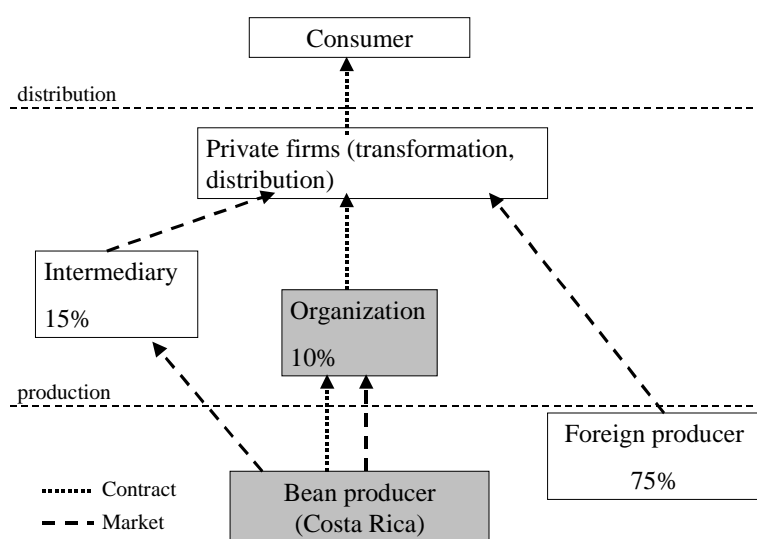
*Figure 5 Economical structuration of the milk sector*



CoopeDosPinos producers tend to have larger exploitation surfaces than others (who deliver to smaller cooperatives or to private firms): with only 1380 producers (27% of the producers in Costa Rica), CoopeDosPinos practically holds the monopoly on milk domestic market. This position would not have been possible without the existence of a system of high import tariff that totally protect milk domestic market. In the last ten years, CoopeDosPinos has been reinforcing its economical weight, developping exportations towards North and Centro-American markets.

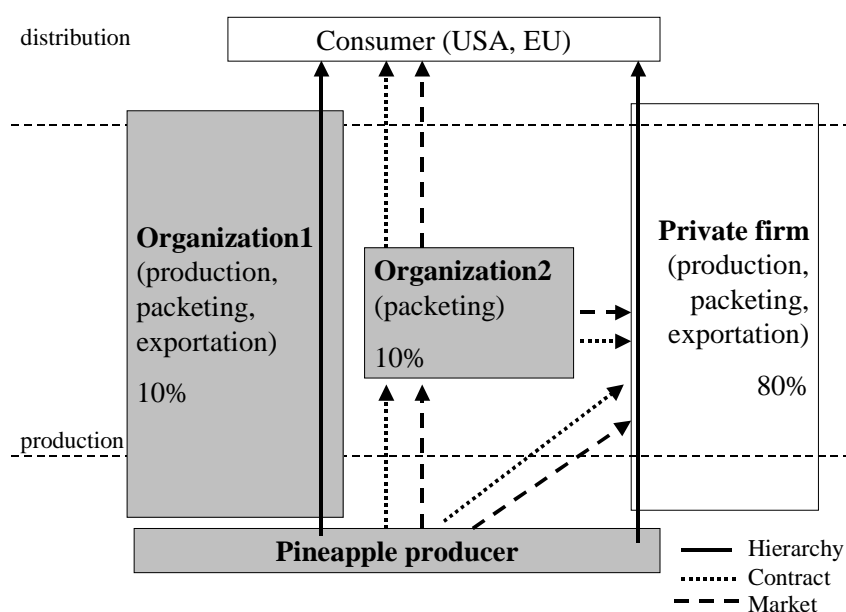
Bean is one of the elements of the costarician staple diet. Traditionally, its production has been ensured by an extended number of small producers (Dioniso, 1991). Up to 1994, for self-sufficiency arguments, bean production has been supported by important public programs: prices were subsidized and the Ministry of Agriculture was in charge of cleaning, packeting and distribution operations. At that time, bean producers had no uncertainty to cope with, and there were no RPOs in bean sector. Nevertheless, State withdrew in 1995 from direct support, which led to a strong declining of the activity, and to the disappearance or reorientation of many small producers (Salazar, 2003). Currently, in the bean sector, economical exchanges are essentially ruled by market laws: most of the bean consumed is imported trough private firms (this is encouraged by a very low import tariff), and even the bean produced in Costa Rica is mostly bought without any kind of vertical structure or contract. Producers' organizations, recently emerged, are trying to establish contracts with private firms but these contracts tend to be misrespected and reduced each year.

*Figure 6 : Economical structuration of the bean sector*



Pineapple is quite recent in Costa Rica as a significant export crop: its production for export rises dramatically (MAG, 2004). This recent and rapid development is related to the installation, mid 80s-early 90s, of multinational firms (Quesada, 1999), supported by important public programs (that ended up in 1999). In the late ten years, the movement has been followed by the re-orientation of many producers towards pineapple production (Veerabadren, 2004). In the 90s, multinational firms extended their packing and exportation functions to production functions, thus vertically integrating the entire sector: these private hierarchical forms still correspond to the prevailing governance structure. However, they are nowadays slightly losing relative economical weight (and indeed their position of “unique” stakeholder), due to : (i) the recent emergence of producers’ organizations that gives rise to hybrid structures (or even to collective hierarchy structures) ; and (ii) the dynamism of the activity that favors market’s functioning (non respect of contracts by producers).

*Figure 7 : Economical structuration of the pineapple sector*



Rural producers’ organizations do have a specific importance in the coordination of economical activities, but the degree of importance differs from one farm sector to one another (ranging from 10% of market share in the bean sector to 95% in the milk sector). Furthermore, this degree has been evolving through time, revealing different adaptive capacities:



- In the coffee sector, producers' cooperatives are relatively losing importance, thus showing weaker adaptive capacities than private firms to the international prices crisis and new requirements to gain market shares (organic, shade, origin based, fairtrade coffees...)
- In the milk sector, the main producers' cooperative maintains its monopolistic position, leaving very little space to private firms.
- In the bean sector, recently created producers' organizations suffer from the development of importations, showing important difficulties to face the liberalized situation.
- In the pineapple sector, newborn producers' organizations reinforce their economical position (sometimes challenging multinational private firms), revealing strong adaptive capacities.

### ***Rural producers' organizations policy making role***

Now, let's consider the specific public policies that apply to the different farmsectors. The situations differ widely: milk and coffee sectors still benefit from important public supports that protect them from liberalization (regulation of coffee prices, high milk import tariffs); when bean and pineapple<sup>4</sup> sectors have been fully liberalized (State withdrawal, frontiers opening). These differences can be accounted for differences, inside farmsectors, of collective action on policy making processes. For each farmsector, we analyze these processes by presenting the advocacy organizations at stake and describing their behavior. We qualify behaviors as pro-active when the organization is directly lobbying at the right policy space (ie where the final decision is taken) and is defending its position on the basis of its proper policy proposal. Except for the case of pineapple sector (where only big producers' interests are defended), all of the sectors do have advocacy RPOs (see Figure 8). In the milk and coffee sector, these RPOs are quite always obtaining benefits from their policy participation, which is hardly the case in the bean sector, where industrial interests are prevailing in policy negotiations.

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<sup>4</sup> The pineapple case symbolizes policy implemented during the Structural Adjustment Programs, known as "*agricultura de cambio*" ( pineapple is a typical product of agricultural diversification oriented to export markets). Surprisingly its development, until 1999, brought together free market orientation with multinational heading the game and at the same time public policy support, through exportation subsidies. After a period of strong opposition to the public supports received by multinational firms (exports subsidies, fiscal advantages), from national farmers unions and from a few civil servants, the exports subsidies system has been abolished. The nowadays public support has been much reduced, and consists in extension programs for small scale farmers.

*Figure 8 : Policy making process at stake in each one of the farmsectors studied*

	Coffee	Milk	Bean	Pineapple
Public support obtained	High price regulation	High market protection	Low market protection	Lobby at European Union
Advocacy organizations	3 organizations: -Producers (1) -Industrials (1) -Exportators (1) Strong coordination	1 organization Strong coordination	17 organizations: -Producers (16) -Industrials (1) Low coordination	1 organization (big producers and exportators) Strong coordination
Producers' organizations' behavior	Pro-active	Pro-active	Defensive	-
Other organizations' behaviours	Pro-active (national firms)	-	Pro-active (national firms)	Pro-active (multi-national firms)

In the coffee sector, the main policy stake is to protect the activity from international prices crisis, by regulating national prices. Since the beginning of the XX<sup>th</sup> century, producers do benefit from such an internal regulation, which used to protect them from international prices' variations (Diaz, 2003). Gaining public supports has traditionally been ruled by the constant interplay of three advocacy organizations : the National Federation of Coffee Cooperatives, the National Chamber of Coffee Growers; and the National Chamber for Coffee Exportators that represent both producers', industrials' and exportators' interests (Chaves, 2000). This interplay takes place inside the Coffee Institute, created in 1933. The usual process begins with a proposition phase from one of the three political organizations (if originated by the producers' organization, this proposition results from a consultation process with the members of local coffee cooperatives), followed with a dialogue phase between the three organizations and the State (within the Coffee Institute), that ends with an internal decision, ruled by a system of representative vote, and usually validated by the legislative power (Legislative Assembly).

Domestic milk market has always been supported in Costa Rica: by a price fixation system that ended up in 1999 (Montero, 2004); and by an importation limitation systems, that shifted from a quota system to a tariff system in 1995. The obtention of these important policy supports is directly linked with the activities of the National Chamber of Milk Producers and

Industrials, since its creation in 1962. The policy making process is usually originated with the elaboration of a proposition by the Chamber (that has been elaborated through a consultation process with milk cooperatives and private firms), and directly goes through a negotiation phase with the executive power where the Chamber directly defends milk sector's position. At present, the policy instruments at stake are import tariffs, directly negotiated between representatives from the Ministry of Foreign Trade and international trade experts from the National Chamber of Milk and from the CoopeDosPinos. The Chamber's policy influence is reinforced by the economic weight of CoopeDosPinos and by the personal ties existing between representatives of the executive power and of CoopeDosPinos<sup>5</sup>.

In the bean sector, from the producer's point of view, the main policy stake is to defend domestic production conditions from importations, acting on tariff levels, just as in the case of milk sector. The policy making process is ruled by interactions between a myriad of small scale producers' organizations, the industrials' organization and the State, represented by different Ministries. Producers are represented by (i) an average of 15 locally based marketing organizations, not specialized in lobbying activities, and by (ii) national farmers' unions that generally protest against State withdrawal from direct production support, without specifically defending bean producers' interests (revendicative actions). On the other hand, industrials are represented by a professional organization, that has rather good capacities for elaborating appropriate policy proposals (high level of knowledge in international trade issues, good technical abilities to analyse economical situations and to formulate policy proposals), and is obtaining satisfying public supports. At the beginning of the process, in 1995, there was no dialogue platform. Nowadays, the National Bean Commission, created in 2003, functions as a dialogue structure, constituted by producers' organizations, industrials' organization and representatives from the Ministry of Agriculture. Discussions are based on the proposals made by the industrials' organization, and lead to internal decisions. However, the final policy decision often differs from this internal decision. Indeed, the final tariff decision is taken by the Ministry of Foreign Trade, and results from a negotiation process where the industrials' organization directly participates, but where RPOs are not present. This exclusion of RPOs can be explained by an erroneous perception of pertinent policy platforms<sup>6</sup>. In many of the

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<sup>5</sup> We found close relationships between members from the Administrative Council of CoopeDosPinos and representatives of the executive power. Indeed, some of the members of the Administrative Council were in charge of government strategic positions (Minister of Economy, Minister of Finance...)

<sup>6</sup> Having participated to a previous dialogue phase where State is represented through the Ministry of Agriculture, and having obtained a formal decision resulting from a direct discussion with industrials (thus

cases, the final decision deserves producers' interests and differs from the decision taken into the National Bean Commission (mix between producers' and industrials' interests).

The pineapple sector's situation is quite different from the others and indeed quite interesting: after a confusing period where firms received huge national public supports<sup>7</sup>, the policy making process is nowadays directed towards the international level, and regards European Commission policies (and not anymore national policies as in the three other cases). There is a single advocacy organization, the National Chamber of Pineapple Producers and Exportators, created recently, that represents both big producers' and exportators' interests (small producers' interests correspond to specific problems and are not represented). The lobbying activities of the National Pineapple Chamber consist in: elaborating political proposals (basically, tariff levels), discussing these proposals at a national level, and bringing them at the international level with the national public support obtained. The main objective of the Chamber is to convince enough at the national level to obtain major support at international level. To do so, the Chamber regularly mobilizes high level policy actors such as: the President of the Republic; experts from Foreign Trade and External Relations Ministries; deputies from the Legislative Assembly; ambassadors from European countries, and delegates from European Commission in Costa Rica.

In each one of the case studied, the policy making process involves a serie of policy proposals and decisions. In three of the cases studied, the final decision, negotiated with executive or legislative bodies, corresponds to the decision obtained by a dialogue between advocacy organizations. In the bean case however, there is a disjuncture between the final decision

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representing a intermediary position between producers and industrials interests), RPOs' leaders may think producers' interests have been defended, and their position has been enough clarified. Bean RPOs' perception is erroneous for two main reasons : (i) the real policy decision is taken elsewhere, by the Ministry of Foreign Trade; and (ii) outside of the National Bean Commission, the Ministry of Agriculture is not really defending producers' interests. This erroneous perception of bean RPOs has much to see with the paternalist relation the Ministry of Agriculture had with bean producers for more than 40 years. Indeed, the National Bean Commission is sort of a "masquerade": producers do have the sensation that they could access a real policy dialogue, but in reality they stay excluded from the real policy process.

<sup>7</sup> Between 1984 and 1999, within the "*Agricultura de Cambio*" program, numerous multinational firms benefited from public supports through systems of exports subsidies and fiscal advantages. These public supports were the results of lobbying actions leaded by the influent Chamber for Exportators. The policy actions of the Chamber for exportators are multisectorial : they gave rise to sectorial advocacy organizations (cases of pineapple, melon, flower, watermelon, tubercules...).

(between 1 and 40% import tariff, that serves industrials interests), and the one obtained in the Commission (between 40 and 70%, that serves both industrials' and producers' interests).

*Figure 9 : Correspondance between preliminary and final political decisions*

	Political instrument	Decision 1 (dialogue)	Decision 2 (negociation)	Correspondance between decisions 1 and 2
Coffee	Price regulation	Coffee Institute	Legislative Assembly	Yes: establishment of a coffee price regulation fund
Milk	Import tariff	National Milk Chamber	Ministry of Foreign Trade	Yes: establishment of a high import tariff
Bean	Import tariff	National Bean Commission	Ministry of Foreign Trade	No: establishment of a low import tariff
Pineapple	EU import tariff	National Pineapple Chamber	European Commission	Yes: suppression of the european import tariff

These observations reveal strong complementarities between policy-making and economical activities of RPOs that do matter on producers' insertion in dynamic markets. Indeed, the well economical functioning of these markets is directly dependent of policy decisions : public supports obtained by advocacy RPOs serve as market incentives (creation of protected economical environments), and enhance economical RPOs' activities. If both policy-making and economical activities are determinant, it appears however that, during the historical process of structuration of the farmsectors studied, economical RPOs came first. In the long run, our analysis highlights strong interactions between economic oriented organizations and policy making oriented organizations. As organizations they are not closed entities since individuals (members) constitute an organic link between them in the same way they do it between professional organizations and administration and political bodies.

*Figure 10 : Emergence of economical and advocacy RPOs in Costa Rica*

RPOs	Coffee	Milk	Bean	Pineapple
Economical organizations	1900s	1947	1995	1990s
Advocacy organizations	1930s	1962	-	2003

In this section, we underlined the key role RPOs can play in farmsectors, permitting both producers' market insertion and policy-making participation. Doing so, we highlighted

organizations' capacities to adapt and participate to institutional changes. We explained the fact that some sectors were characterized by a relative institutional continuity (milk and coffee cases), while others were characterized by situations of institutional shocks (bean case<sup>8</sup>) by the way organizations were participating to policy making processes and obtaining (or not) policy measures that would protect them from liberalization.

Furthermore, we saw in this section that policy and economical weights of RPOs differ considerably: in the coffee, milk and pineapple sectors, both RPOs economical and policy influence are important – even if RPOs in pineapple sector are still young in terms of experience<sup>9</sup>; while in the bean sector RPOs influence is much lower (very low market share and reduced lobbying power). The analysis we made on the basis of the empirical material collected indicates relations between the intensity of the economic coordination and the influence in policy making process. A stakeholder's dominant economic position in the value chain (pineapple, milk) corresponding to hierarchical coordination is associated with a strong influence in policy making. We may extend this to coffee sector but to a lesser extent due to less concentration of economic power which in turn is compensated by stronger ties between sector professionals and political personal. In section two, we seek to understand these differences by analyzing the conditions under what RPOs succeed in ensuring producers' insertion in domestic and international markets.

## **Section 2: Conditions of rural producers organizations' success**

We analyze the reasons why RPOs could fail or succeed in implementing policy-making or economical activities. In the literature, authors insist on different factors that influence organizations results: these factors can refer to the environment of the organization (Handy, 1999; Stockbridge, 2003), to individuals that are part of the organization (Olson 1978; Hardin 1982; Nabli and Nugent 1990), or to the organization itself (Olson 1978; Cook 1995, Staatz 1989; Handy 1999).

### ***Analytical scheme, data collection and analysis***

Most of the economical studies deal with the factors of success without analysing directly the determinants of organizations' choices made. We focus on the organization's characteristics

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<sup>8</sup> The bean case illustrates the fact that organizations' adaptive capacities need time to be constructed and are the result of complex learning processes.

<sup>9</sup> Considering only the organization per se, appreciation may be different considering the individuals that may reveal deep experience acquired in other organization

that are potentially important to understand the choices made, and, at the end, the results obtained by the organizations. We describe these characteristics as follows:

- Resources' endowment, as suggested in the management literature (Penrose 1979, Wernerfelt 1984). According to the resource based view, the heterogeneity of resources between firms lead to heterogeneous results; and the resources a firm owns result from long lasting learning processes. According to the authors, resources are classified in different ways: tangible or not (Penrose 1979); individuals or organizational (Grant 1991), physical, human and financial (Barney 1997). We choose to distinguish between financial, technical and human resources.

- Trajectories and experiences, considering them as a kind of "historical resource" (Nugent 1993). We consider both individual and collective histories since they are closely interconnected: individuals with their own personal experiences form the basis of collective action processes. In return, organizations with the rules they establish and pursue, shape individuals' behaviours to achieve a common goal, thus gaining collectively a set of individual new experiences.

- Mental perceptions of the leaders, concerning their environment (Nabli and Nugent, 1990; North 1990). We use the concept of mental model, as defined by Denzau and North in 1994 : "*internal representations that individual cognitive systems create to interpret the environment*" (Denzau and North, 1994, p3). Mental models can be considered as a kind of "cognitive resource" that influences strategic choices (Nadoulak, 1992). The way these mental models determine individual or collective choices and, at the end, the evolution of societies, has been wisely emphasized: "*mental models guide choices and shape the evolution of political and economical systems*" (Denzau and North, 1994). More particularly, North emphasized the way cognition shapes institutions: "*belief systems are the internal representation and institutions the external manifestation of that representation*" (North, 2005, p 49).

In the following subsection we test the relation of these organizations' characteristics with the results obtained by the organizations. The results have been evaluated by the construction of indicators: in the case of marketing oriented RPOs, we took into account elements basically related to the amount and stability of the profits obtained; and in the case of advocacy oriented RPOs, we took into account elements related to the degree of participation of the RPO and to the final decision obtained.

The data collection, realized between November 2006 and February 2007 in Costa Rica, consisted in open and guided interviews with organizations' leaders and representative from

executive and legislative bodies. The data obtained are both qualitative<sup>10</sup> and quantitative<sup>11</sup>. At the end, 25 cases of organizations were analyzed: 12 organizations were more policy-making oriented (acting at national level), and 13 were more marketing oriented (acting at local level). The data analysis consisted in three distinct phases.

- An analytical description. To conduct our comparative case studies (Yin, 1994), this method has been widely used to present collected material data such as actors' trajectories, interpersonal and interorganizational relations, policy making and marketing processes...

- A statistical analysis of textual data. This method has been used to assess the relation between the way organizations' leaders were perceiving their environment and the way they were behaving in that environment, analyzing leaders' speeches. The innovation basically consists in making a quantitative treatment of qualitative data. Textual analysis developed in the 1980s, and relies on a starting hypothesis that the words employed by the actors refer to "mental schemes" that can be clarified (Reinert 1986). Lexicometric analysis is a mix between content analysis and cognitive mapping: it enables both a quantitative definition of lexical specificity (by establishing lexical classes composed by representative words) and a production of qualitative structural information (by analyzing in the classes the relations between the most representative words). We will not present here into detail the results obtained with this method, and rather stick to very rough categories (for further details see Maître D'Hôtel and Chabaud, 2006, to be published).

- Partial least square modeling. To answer the theoretical issue "do mental models matter on behaviours?" we wanted to measure the influence of both "classical determinants" of the behavior (as resources, experience...) and "non classical determinants" of the behavior (as mental models) on the results obtained by the organizations<sup>12</sup>. We were not able to use linear regression because (i) our observations number was too reduced, and (ii) explanatory variables could be correlated. Thus, we oriented towards partial least square techniques (Hulland, 1999), often referred as "soft modelling", because there is few distribution assumptions and few observations suffice (Tenenhaus and al, 2005).

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<sup>10</sup> For example : points of view, trajectories, relations, network insertion, knowledge, technical abilities...

<sup>11</sup> For example : financial resources, economical results, members participation...

<sup>12</sup> The textual analysis's results revealed a direct correspondance between mental models and behaviors, which could seem intuitive (and even tautologic). We wanted to go further and to determine if the fact to take into account mental models as an explanatory variable in the analysis of behaviors would permit to better understand these behaviors (better than with the classical variables only).



### ***Results presentation***

In this subsection, we first give a brief analysis of organizations' characteristics before assessing the relations existing between these characteristics and the results obtained by the organizations. The analytical description is coherent with the huge variation in resources endowment observed for RPOs between each farm sectors. A rapid observation at Figure 11 seems to indicate that the higher the experience, the higher the resources endowment (generally speaking), which is intuitive with the existence of learning processes that permit organizations a progressive construction of resources and capacities.

*Figure 11 : RPOs experience and resources' endowment*

RPOs	Coffee		Milk		Bean		Pineapple	
	Eco	Po	Eco	Po	Eco	Po	Eco	Po
Experience (years)	108	74	60	45	12	-	20	4
Technical abilities	+++	+++	+++	+++	+	-	+++	++
Financial capacities	+	-	+++	+	-	-	+++	+
Human resources	+++	++	+++	+++	+	-	+++	++

During the interviews, RPOs' leaders were invited to talk about their respective perceptions of their own farmsector situations for economical RPOs' leaders and of policy making processes for advocacy RPOs' ones. On the basis of their discourses, we conducted a statistical analysis of textual data using the Alceste software. The results indicate that from one farmsector to one another, leaders perceive their environment quite differently<sup>13</sup>. Mental models seem to converge within each of the farmsectors (relative proximity of leaders' speeches). In the case of policy-making RPOs, the policy making process can be seen as:

- an opportunity to defend ones interests (coffee, milk and pineapple leaders)
- a real constraint (bean leaders).

In the case of economical RPOs, leaders tend to focus more on different coordination mechanisms:

- organizations (coffee and milk leaders)
- State (bean leaders)
- market (pineapple leaders).

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<sup>13</sup> Partly, this result accounts for differences between environments, and partly for differences in mental schemes (a same environment can be perceived differently).

Now, moving to the analysis of the way organizations' characteristics (experience, financial, technical and human resources, mental models) are influencing their strategic choices, it appears that these characteristics do influence RPOs choices in different ways.

*Figure 12 : Partial Least Square results*

	Advocacy RPOs		Economical RPOs	
Characteristics	Explanatory variables	Coefficient	Explanatory variables	Coefficient
Experience	Age	-0,02	Age	-0,01
Technical resources	Proposal abilities	0,09 *	Universitary degree	0,17 *
	Knowledge	0,04	Permanent formation	0,12 *
Financial resources	Financial capacities	0,05	External support	0,02
	Financial specificity	0,20 *	Investment capacity	0,22 *
Human resources	Personal imbrications	0,21 *	Publicnetworkinsertion	-0,15 *
	Support from the basis	0,14 *	Privatenetworkinsertion	0,16 *
	Representativity	0,06 *	Members participation	0,08 *
Mental models	Opportunity	0,07 *	Market	0,09 *
	Constraint	-0,06 *	Organization	0,06 *
			State	-0,16 *

The partial least square results<sup>14</sup>, established on the relations between different sets of characteristics (mental models, experience, and resources endowment) and organizations' results show that:

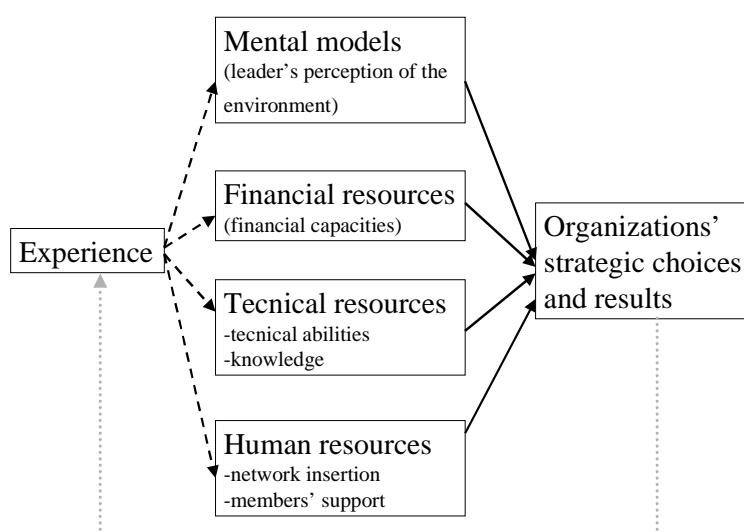
- "Experience" does not have any significant direct effect on organization's results. However, tests made to assess the existence of relations between the variable experience and variables related to "resources" and to "mental models" show that "Experience" has a positive significant indirect effect on organizations' results.
- Mental models do have a direct effect on organizations' results. In the case of advocacy RPOs, perceiving the policy making process as an oportunity to defends ones interests has a significant positive influence on the results obtained. In the case of economical RPOs, directly

<sup>14</sup> Each one of the explanatory variables does have a relation with the variable to be explained, materialized by the normalized coefficient. However, this coefficient can not be interpreted directly, but trough a ranking of the variables in an order of importance (absolute value of the coefficient). The interpretation process requires to retain only the variables presenting the most important coefficients in absolute value. For arbitrary reasons, we only considered the variables with a coefficient higher than 0,05 in absolute value.

enhancing the role of the State in the farmsector situation has a significative negative influence on the results obtained. In bean sector, RPOs' leaders take State withdrawal as responsible for producers' difficulties; whereas in milk, coffee and pineapple sectors, leaders think the activities leaded by RPOs are much more determinant in term of contribution to the sector's development than the public programs the State could have implemented (even when they acknowledge the importance of public programs, leaders do attribute the obtention of these programs to their actions).

- Resources' endowment does have a direct effect on organizations' results. This effect is somehow varying according (i) to the type of resources and (ii) to the kind of activities. In the case of advocacy RPOs, human and technical resources are much more determinant than financial ones (positive influence of personal ties with executive and legislative powers, support from the basis, technical abilities). In the case of economical RPOs, financial and technical resources are both important (positive influence of financial capacities, university degree, permanent formation); when human resources can play an ambiguous role (positive influence of private network insertion, but negative influence of public network insertion). Organizations' characteristics such as resources' endowment and mental perceptions do have a direct effect on organizations's results (in the case of advocacy organizations as in the case of economical organizations). Experience does have an indirect effect on organizations' results, through the constitution of resources and perceptions, as represented on Figure13.

*Figure 13 : Indirect and direct measured effects*



The indirect effect of “experience” appeals for explanations in term of learning.

- In coffee and milk sectors, RPOs count with a long history of collective action, and their leaders and members have been used to behave in a very active way, directly participating both to the definition of specific public policies (through the constitution advocacy organizations), and to the economical structuration of the sectors (through the constitution of cooperatives). These long lasting activities allowed organizations to get good knowledge and analytical skills, to consolidate their human networks since personal ties between actors in these two sectors and both high level civil servants and the government members are important. It also shaped their mental perceptions so that they formulate choices that perfectly fit the institutional environment they contributed to design (good adaptive and participative capabilities).

- In the bean sector, organizations emerged recently, in reaction to State withdrawal: they are composed by farmers who were used in the past to get public support from the State without having to participate to its elaboration<sup>15</sup> and even without having to worry about marketing their production. This situation partly explains the difficulties encountered by bean RPOs to face a liberalized environment, their lower level of resources and their somewhat “inadequate” mental models (low adaptive capabilities). However, the case RPOs in the bean sector is a good illustration of the dynamic of a learning process: in 1995, RPOs assisted (without having any resource that would have permitted them to participate satisfisfully) to the fixation of an import tariff of 1%. Today, RPOs do have a higher level of resources (in terms of analytical capacities, networking...) and participate to the policy making process, obtaining higher levels of tariff protection (now up to 40%). That means that bean organizations have shifted in ten years from a inexperienced attitude towards policies to a more active and better targeted one that enable them to defend in a more accurate way the domestic production. This ten years evolution situation seems consistent with literature (North 1990, p 45), and reveal an interesting “delay adjustment”.

- The case of pineapple sector is more complex. RPOs, although recently emerged, showed rather good adaptive capacities to face a liberalized environment. To explain this situation, we need to analyze both organizational capacities and individual capacities. In term of organizational capacities, technical factors matter a lot since there is a shift from production done by multinationals to production by individual producers and a specific role

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<sup>15</sup> Some bean RPOs' leaders had participated to land conflicts in the 1970s-1980s and leaded revendicative actions targeted against the State (one single dominant actor). However, the experience they get from these revendicative actions was not adapted to situations of multi-actors negotiation where the capacity to elaborate proposal admissible for the other actors has become strategic.

for RPOs in getting the product right. In term of individual capacities, pineapple RPOs' leaders are highly educated individuals who are rather well introduced in policy and economical networks, who have flourishing businesses (the main stakeholders are North-american firms, producing and exporting to North-america), who defend entrepreneurial vision. As an example, the leader of the National Chamber for Pineapple Producers and Exporters (i) has been for ten years the leader of the Chamber for Exporters, a very powerful advocacy organization in Costa Rica, that obtained in the 90s important public supports (exports subsidies and fiscal advantages); and has managed for twenty years banana exploitations, before diversifying his activities towards pineapple exploitation. This example suggests how an organization can benefit from its leaders' personal trajectory and how this trajectory implies capacities' building, by the acquisition of knowledge and analytical skills, and by the construction of close interpersonal ties with administrative officials and government members.

### ***Pathdependency***

Our elements indicate that « *history matters* » (North, 1990) but we would like to go a little further following an approach proposed by Pierson (2000) in his attempt to formalize the path dependence in its narrow version<sup>16</sup>, to answer the question why history matters so vitally.

#### *Factors that lead to pathdependency*

From our empirical material, we try to identify the core determinants at work to explain path dependence processes putting “time horizons” in our economic picture to understand better institutional continuity and the specific role of RPOs. Among the factors identified in the literature, we propose to consider both technical and economical determinants on one side and institutional and political ones on the other side, since we adopted this unsatisfactory categorization of RPOs in this paper. The first set of factors focus on the technical content and constraints linked to the products along with their specific processing that widely vary according to the type of market targeted. They refer explicitly to coordination and learning phenomenons (North 1990, Arthur 1994; Pierson 2000, Mahoney 2001): institutions create mutually consistent expectations that permit easier coordination of behaviors (Arthur 1994; David 1994), that reinforce habits (Nelson and Winter 1982; Hodgson 1998), and that increase return costs (Pierson, 2000). The second set of factors deals with power

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<sup>16</sup>In its broader version, pathdependence is close to the “history matters” formula and means that “*what happened at an earlier point in time will affect the possible outcomes of a sequence of events occurring at a later point in time*” (Sewell 1966, quoted from Pierson 2000).

considerations: institutions reveal a specific distribution of power and wealth in a society (Bardhan, 2001), and thus tend to favour specific groups and organizations that have interest in maintaining *status quo* (Mahoney 2001, North 2005). It also embraces policy making considerations since the collective nature of politics (Pierson, 2000) and “institutional thickness” influences the path dependent nature of institutional change. Between these two broad categories of factors we find the learning process which is inherent to any collective action. It involves cognition phenomena: path dependence arises from the way cognition evolves (Denzau and North 1994, Egidi 1997, North 2005), and from the fact perceptions evolve slowly, through complex learning processes (North 1990; Hodgson 1998). These different factors interact and allow a better understanding of institutional change and path dependant phenomena we observed in Costa Rica. We will refer to coffee and milk sectors since their trajectories along the XX<sup>th</sup> century allow considerations about RPOs role in path dependent process. We will add some comments drawing lessons from more recent institutional changes in pineapple and bean sectors since we cannot talk about historical depth in these cases.

The technical dimension and the related costs permit to understand the institutional continuity observed in the cases of milk and coffee.

- High fixed costs. With different technical constraints, both milk and coffee experience processing requirements that orient strongly the next step forward. Cold chain and the related process of dairy products in milk case, and the treatment of fresh coffee in coffee case imply high investments and technical skills for RPOs (furthermore, standards evolve rapidly in these two sectors).

- High coordination effects. The prevailing economical mechanisms do have long roots (governance structures), and RPOs rely on these mechanisms partly because it is less costly than implementing new ones (people get used to one kind of coordination). On the contrary, in the bean sector, producers have been used for a period of 40 years to receive direct public support, and when faced to State withdrawal, it was very costly for them to construct new mechanisms, creating RPOs, and economical coordination is still hazardous.

The political and institutional dimension give us just as much explanations to path dependency observed.

- Asymetries of power. Power explanations are quite pertinent: strong personal imbrications exist between government members and RPOs representants in coffee and milk cases. These imbrications have long historical roots in the coffee case (from the early XX<sup>th</sup> century, costarician political elite was dominated by families of coffee industrials and

exporters), and are more recent in the cases of milk (1960s). Accession to power seems to be facilitated by dominant stakeholder position (CoopeDosPinos in milk, multinational firms in pineapple), that tend to maintain power asymmetries.

- Collective nature of politics. Because most of the goods obtained in politics are public goods, free riding problems arise (Olson, 1968), and involve high start up costs for a policy making oriented RPOs to emerge. The existence of high costs provides evidence for organization persistence, as it has been observed in milk and coffee cases.

- Institutional density. Both milk and coffee sectors have been regulated by numerous public policies that have been obtained by the construction of formal institutions (dialogue and negotiation platforms between State representants and RPOs). Thus, milk and coffee policies are grounded in formal institutions, that constraint and guide RPOs' behavior.

At the end, both tecnico-economical and politico-institutional factors imply learning processes, that include cognitive phenomenons. Nowadays RPOs' behaviors are grounded in the capacities they constructed through experience. These capacities include cognitive<sup>17</sup>, technical, human, and financial factors.

#### *Pathdependency's dynamics*

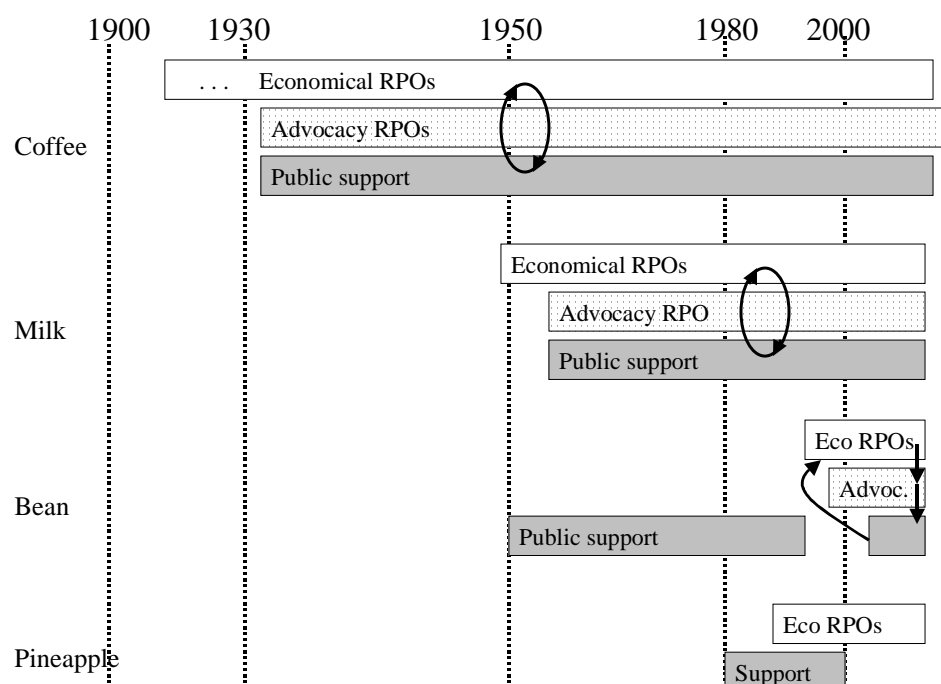
Institutional change dynamics is often described as long periods of gradual change punctuated by short periods of radical changes, and named "*dynamics of punctual equilibrium*" (Denzau and North 1994). In coffee and milk cases, the institutional and organizational dynamics is rather continuous: we described the evolution of RPOs' behaviours as "*successes serially correlated*" (Levinthal and March, 1981); and we showed that RPOs were evolving through a generative learning process: at the same time, RPOs are adapting and participating to institutional changes. On the contrary, in bean and pineapple sectors, the institutional and organizational dynamics shows discontinuities. In this article, we will limit ourselves to an explanation of discontinuities as the result of the application of an external force: this is not a satisfactory posture, nevertheless it permits to study RPOs' reactions to discontinuities. Our elements reveal that, faced to institutional changes, RPOs had different reactions : in the case of pineapple, RPOs were rather quick to implement adaptive learning process, positioning

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<sup>17</sup> The bean example gives us a case where cognitive factors do play a key role in RPOs' efficiency. The delay adjustment we observed is linked with the time RPOs' leaders took to perceive the gap existing between their efforts (revendicative actions against one single actor) and the effects of these efforts (none). The starting point of the learning process is that specific point of perception, that implies a modification of mental models (towards a more active perception of their role in the process), and the development of new strategies (towards proposal and dialogue actions with multiple actors).

themselves in the economical game, without trying to act on the national policy making elaboration; in the case of bean, RPOs were slower to adapt to changes, but they moved from a phase of adaptive learning to a phase of generative learning where they began participating to policy processes, through the creation of a dialogue platform. Partly, differences in mental models between bean and pineapple RPOs leaders account for differences in the velocity of implementation of learning processes.

*Figure 14 : Dynamics, generative versus adaptive learning processes*



## Conclusion

In contexts characterized by economical liberalization, rural producers' organizations can guarantee producers' insertion in dynamic markets, by adapting to liberalization (marketing oriented activities) and even shaping its conditions (policy making oriented activities). We showed that RPOs' policy and economical activities were mutually interdependent : in most of the cases, the result of policy activities can be the creation of market incentives. However, the conditions for success of RPOs in ensuring producers insertion in dynamic markets depend both on organization's mental perceptions and resources' endowment. These characteristics are the results of learning processes and directly depend on organizations' and individuals histories. Thus, RPOs successes are in line with pathdependent logic.



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## Appendix

Figure 15 : Policy making process in the coffee sector

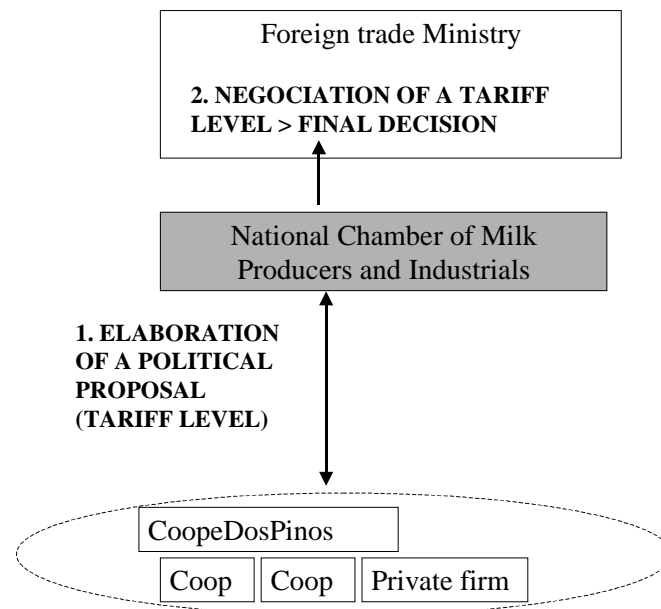
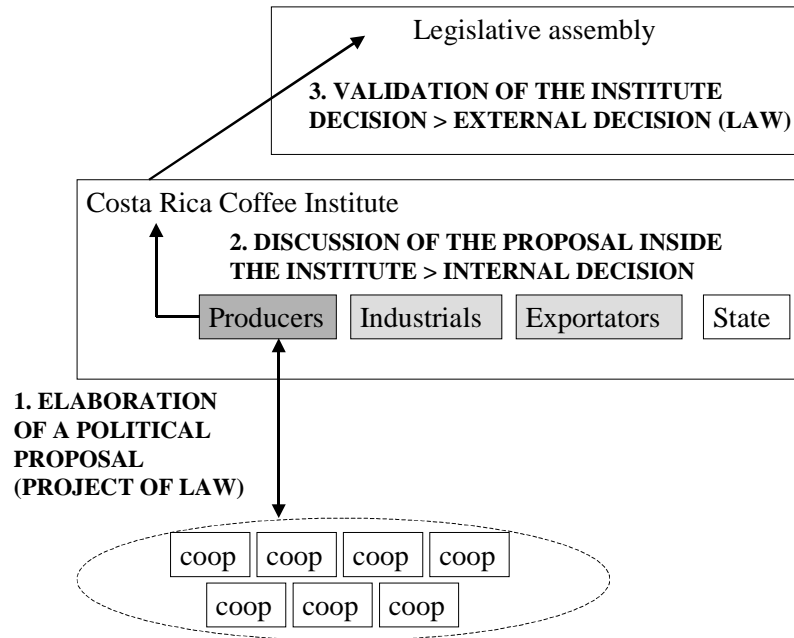


Figure 16 : Policy making process in the milk sector

Figure 17 : Policy making process in the bean sector

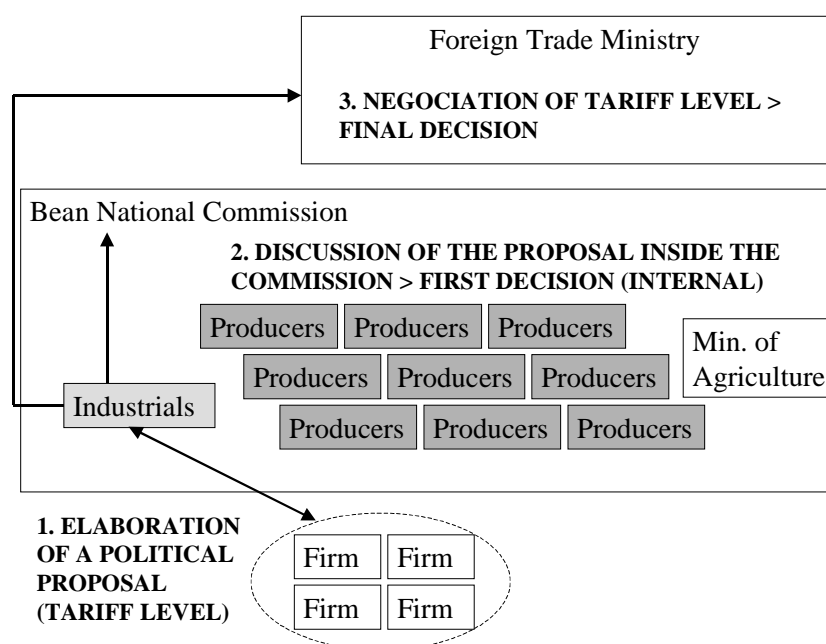


Figure 18 : Policy making process in the pineapple sector

